

## Hoist a bigger sail!



### Gestational Diabetes: Life Course and Intergenerational Implications



Andrea Riley, RN BA BSN

## Women and Children First!

### Ahoy, mateys! Gestational Diabetes is presented by:

- ☞ Andrea Riley\*
- ☞ Sr. Community Health Nurse
- ☞ DHHS Diabetes Prevention and Control Program
- ☞ 301 Centennial Mall South Box 95026
- ☞ Lincoln, NE 68509-5026
- ☞ 402-471-0162
- ☞ [Andrea.riley@nebraska.gov](mailto:Andrea.riley@nebraska.gov)



[www.dhhs.ne.gov/diabetes](http://www.dhhs.ne.gov/diabetes)

\*not a real pirate

## Diabetes Prevention & Control Program

- ☞ **"Our mission is to reduce the impact of diabetes in Nebraska by promoting and improving diabetes prevention, management, and education."**
- ☞ Established in 1978 through funding from the Centers for Disease Control and Prevention (CDC).
- ☞ We have lots of diabetes materials we can ship to your office – **check your packets for order form!**



NEBRASKA  
Diabetes Prevention  
and Control Program

## Objectives



- ☞ Examine data regarding gestational diabetes and evidence linking gestational diabetes to poor outcomes of pregnancy.
- ☞ Identify underlying causes of gestational diabetes.
- ☞ Understand the intergenerational implications of gestational diabetes
- ☞ Identify key prevention messages for nurses to disseminate in the community of practice.

## Gestational Diabetes Overview

### Gestational Diabetes Mellitus (GDM):

- ☞ Type of diabetes that is found for the first time when a woman is pregnant
- ☞ Manifests in second trimester
- ☞ Found in 7-19% of pregnancies
- ☞ Rates of GDM rising with rates of obesity



## Who is at risk for GDM?

### You are at risk for GDM if you:

- ☞ have a parent, brother, or sister with diabetes
- ☞ are African American, American Indian, Asian American, Hispanic/Latino, or Pacific Islander
- ☞ are 25 years old or older
- ☞ are overweight
- ☞ have had gestational diabetes before, or have given birth to a baby weighing more than 9 pounds
- ☞ have pre-diabetes

## Measuring risk for GDM

- ☞ You are at **high risk** if you are very overweight, have had gestational diabetes before, have a strong family history of diabetes, or have glucose in your urine.
- ☞ You are at **average risk** if you have one or more of the risk factors on the last slide.
- ☞ You are at **low risk** if you did not have any of the risk factors.



## Risk factors for GDM?

- ☞ Number one risk factor for GDM is having a pre-pregnancy Body Mass Index (BMI) in the overweight or obese range

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Overweight
30.0 and Above	Obese



## Cool Tool - BMI Calculator

- ☞ BMI calculators for adults and children

<http://www.cdc.gov/healthyweight/assessing/bmi/index.html>

### Body Mass Index

Body Mass Index (BMI) is a number calculated from a person's weight and height. BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems.

#### Calculate Your BMI

Adult BMI Calculator



Child and Teen BMI Calculator



## Risk factors for GDM?

- ☞ Gestational Weight Gain (GWG) also a **very important factor**, especially early in pregnancy.
- ☞ Overweight and obese women with excessive GWG at greater risk for GDM than underweight and normal weight women



## Getting Off Course--Insulin resistance (IR)

IR is a condition in which the body produces insulin but does not use it properly.

When people are insulin resistant,

- ☞ Their cells do not respond properly to insulin.
- ☞ Their bodies need more insulin to help glucose enter cells.
- ☞ The pancreas tries to keep up with this increased demand for insulin by producing more (hyperinsulinemia)



## Insulin resistance (IR) continued...

When people are insulin resistant,

- ☞ Eventually, the pancreas fails to keep up with the body's need for insulin
- ☞ Excess glucose builds up in the bloodstream, setting the stage for diabetes.
- ☞ Many people with insulin resistance have high levels of both glucose and insulin circulating in their blood at the same time.

## Insulin resistance

- ✎ IR may not have any symptoms
- ✎ IR causes metabolic syndrome
- ✎ Over time, IR leads to type 2 diabetes
- ✎ Obesity is the most common risk factor for IR

## What's IR got to do with GDM?

- ✎ GDM is caused by IR, body's inability to keep up with demand for insulin causing too high of blood sugar
  - Pregnancy hormones interfere with the action of insulin
  - Need for insulin may triple in pregnancy
- ✎ **Normal pregnancy** increases IR by 50-60%
- ✎ IR increases with each trimester
- ✎ Overweight/obese women at risk for having further IR in pregnancy and therefore at higher risk of having GDM

## Calmer waters - improving insulin sensitivity

- ✎ Insulin sensitivity is generally restored after baby is born
  - ✎ Breastfeeding (improves glucose tolerance)
- In general:
- ✎ Physical activity can improve insulin sensitivity
  - ✎ Losing weight (even a small amount like 5-7% of body weight) through healthy eating
  - ✎ Taking medication like metformin



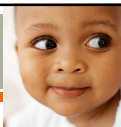
## Why do women with GDM have bigger babies?

- ✎ Higher blood glucose in mom, glucose crosses placenta, baby gets more glucose than it needs, produces more insulin, gets bigger as a result
- ✎ Weight also is correlated with pre-pregnancy BMI and GWG.
- ✎ Treating GDM can prevent excess GWG and reduce risk of having LGA baby (though even with treatment some babies are still LGA)



## Medical Management of GDM

- ✎ Medical Nutrition Therapy (MNT) is the initial approach
  - Work with dietitian to develop meal plan to normalize blood sugars
  - Eat often – 3 small meals and 1-3 snacks a day
  - Be careful what carbs you eat
  - Eat lots of whole grain foods, fruits, and veggies
  - Self monitor blood glucose to test effectiveness of MNT



## Medical Management of GDM

- ✎ Some women are able to control their GDM just by exercising and careful, careful monitoring of their diet
- ✎ Others will need oral medications (like metformin), insulin, or both

Blood glucose targets for most women with gestational diabetes	
On awakening	not above 95 mg/dL
1 hour after a meal	not above 140 mg/dL
2 hours after a meal	not above 120 mg/dL



## Cool Tool — Free Blood Glucose Logs

- Free from Nebraska Diabetes Prevention and Control Program
- Intensive management (insulin) and basic management



## Is it gestational or type 2 diabetes?

- American Diabetes Association:

“As the ongoing epidemic of obesity and diabetes has led to more type 2 diabetes in women of childbearing age, the number of pregnant women with **undiagnosed type 2 diabetes** has increased.

Because of this, it is reasonable to screen women with risk factors for type 2 diabetes for diabetes at their initial prenatal visit.”



Note to nurses:  
Know who to screen for T2D at first prenatal visit!

## Who do you screen for type 2 diabetes?



Women who are **overweight (BMI 25+)** and who have one or more of the following risk factors should be screened for type 2 diabetes at initial prenatal visit:

- Physical inactivity
- First-degree relative with diabetes
- High-risk race/ethnicity (African American, Latino, Native American, Asian American, Pacific Islander)
- Women who had a baby >9lbs or had prior GDM
- Hypertension (BP 140/90 or higher, or on therapy for HTN)

## Who do you screen for type 2 diabetes? Cont'd

Risk factors continued...

- HDL cholesterol level <35 mg/dL and/or triglyceride level >250 mg/dL
- PCOS
- Pre-diabetes
- Other clinical conditions associated with insulin resistance (e.g. severe obesity, acanthosis nigricans)
- History of CVD



## Plotting a New Course—How to diagnose GDM

- Without those risk factors, screening for GDM should be done at **24-28 weeks gestation**
- Standard test is the 75-g oral glucose tolerance test (OGTT), should be done after overnight (or at least 8 hr) fast
- Diagnose GDM if any of the following plasma glucose values are met or exceeded:
  - Fasting: 92 mg/dL
  - 1h: 180 mg/dL
  - 2h: 153 mg/dL



## Why Treat GDM?

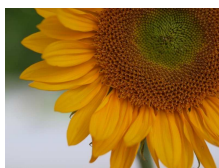
Left untreated, GDM can cause

- Macrosomia, large for gestational age baby (LGA)
- Low blood sugar in baby after delivery
- Breathing problems
- Shoulder dystocia
- Nerve palsy
- Bone fracture (delivery)
- Death
- Increase in C-section delivery



## The good news is...

- ✎ Since GDM occurs later in pregnancy, after all the organs are formed and baby is pretty well developed, it doesn't cause birth defects
- ✎ Treating GDM by controlling mom's blood glucose levels reduces chances of adverse outcomes from 4% to 1%



Smile—most moms with GDM will have healthy babies!

Engl J Med. 2005 Jun 16;352(4):2477-86. Epub 2005 Jun 12. Effect of treatment of gestational diabetes mellitus on pregnancy outcomes. Crowther CA, Peiris D, Moss AL, McPhee AJ, Jeffries VL, Robinson JC. Australian Collaborative Group on Gestational Diabetes. Department of Obstetrics and Gynaecology, University of Adelaide, Adelaide, Australia.

## Andrea's Story — Healthy Baby After GDM

- ✎ "With all of the scary things that can go wrong during a high-risk pregnancy, gestational diabetes is a manageable health issue, but it can be deadly for the baby or cause other health concerns.
- ✎ I didn't want to take medication unless it was absolutely necessary, so with the help of a dietitian, I was able to control my blood-sugar levels with a healthy meal plan and exercise. In addition, I was watched extremely closely by my doctor, and had weekly ultrasounds and biofeedback tests."

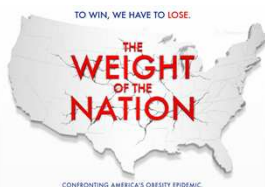


"Overall I had a very healthy pregnancy, and my baby girl was born a very healthy 7.7 lbs." -Andrea

<http://dhhs.ne.gov/publichealth/Pages/DadSuccessStoriesAndrea.aspx>

## Cool Tools - More Real Life Stories

- ✎ HBO Series "The Weight of the Nation"
  - Documentary series about America's struggle with obesity
  - Made with the IOM, CDC, NIH
  - View online at <http://theweightofthenation.hbo.com/>
- ✎ Short film on gestational diabetes
  - "Healthy mom, healthy baby"
  - Click on Watch the Film,
  - then click on Bonus Shorts



## All Hands On Deck—Obesity Epidemic

- ✎ Maternal obesity contributes to
  - Fertility problems
  - Higher risk of miscarriage and stillbirth
  - Pregnancy complications, like GDM and pre-eclampsia
  - Delivery complications (LGA infants)
  - Childhood obesity (downstream obesity)
- ✎ If at all possible, nurses should be helping the overweight/obese woman manage weight **before pregnancy** to reduce risks for mom and baby.



## All Hands On Deck—Obesity Epidemic

- ✎ It's hard to change the course of a ship when it's already at sail—aim for the boats in the harbor!
- ✎ Gestational diabetes is best prevented when mom reaches a healthy weight before getting pregnant.
- ✎ **Huge opportunity for nurses** to educate women about how increasing their physical activity and changing their diet can help their own health as well as their future child's!

Help stop gestational diabetes before it starts!



## Cool Tools for All Patients — My Plate

- ✎ My Plate – [www.ChooseMyPlate.gov](http://www.ChooseMyPlate.gov)
- ✎ Check your packet for MyPlate handout for ALL patients
- ✎ Easy way to teach people about healthy eating
- ✎ Has section for pregnant and breastfeeding moms
- ✎ Check out SuperTracker to keep track of calories in and out with food and physical activity
  - Could be a tool for weight management
  - May help women with GDM who need to have food diaries
  - Pregnant women can develop their own personalized eating plans

**USDA ChooseMyPlate.gov**

United States Department of Agriculture

Home > Weight Management and Calories > Weight Management

**Topics**

- Weight Management
  - Learn What You Currently Eat and Drink
  - What To Eat and Drink
  - Make Better Choices
  - Eat the Right Amount of Calories for You
  - Decrease Portion Sizes
  - Eat Fewer Empty Calories
  - Focus on Foods You Need
  - When Eating Out, Make Better Choices
  - Cook More Often at Home
  - Increase Physical Activity
  - Decrease Screen Time
- Calories
  - Resources for Weight Management and Calories

**Weight Management & Calories**

**Weight Management**

**Why is weight management important?**

In addition to helping you feel and look better, reaching a healthier body weight is good for your overall health and well being. If you are overweight or obese, you have a greater risk of developing many diseases including type 2 diabetes, heart disease, and some types of cancer.

The secret to success is making changes and sticking with them.

- First - Find out What You Eat and Drink. This is a key step in managing your weight.
- Next - Find out What to Eat and Drink. Get a personalized Daily Food Plan - just for you - to help guide your food choices.
- Then - Make Better Choices. Everyone is different. Compare what you eat and drink to what you should eat and drink. The ideas and tips in this section can help you make better choices, which can have a lasting impact on your body weight over time.

**Children and adolescents:** The advice in this section is for adults. If your child is overweight or obese, consult a health care provider to determine appropriate weight management for him or her. Because children and adolescents are growing, their BMI is plotted on growth charts for size and age. You can learn more about BMI for children and adolescents, and determine your child's weight status using the BMI calculator.

**USDA ChooseMyPlate.gov**

United States Department of Agriculture

Home > Health and Nutrition Information for Pregnant and Breastfeeding Women

**Topics**

- Making Healthy Choices in Each Food Group
- Nutritional Needs During Pregnancy
- Weight Gain during Pregnancy
- Weight Loss While Breastfeeding
- Nutritional Needs While Breastfeeding
- Dietary Supplements
- Health Needs
- Food Safety for Pregnant and Breastfeeding Women
- More Information for Pregnant and Breastfeeding Women

**Health & Nutrition Information for Pregnant & Breastfeeding Women**

**Daily Food Plan for Moms**

**Weight gain during pregnancy**

You should gain weight gradually during your pregnancy, with most of the weight gained in the last 3 months. Many doctors suggest women gain weight at the following rate:

- 1 to 4 pounds total during the first 3 months (first trimester)
- 2 to 4 pounds per month during the 4th to 9th months (second and third trimesters)

The total amount of weight you should gain during your pregnancy depends on your weight when you became pregnant.

Women whose weight was in the healthy range before becoming pregnant should gain between 25 and 35 pounds while pregnant. The advice is different for those who were overweight or underweight before becoming pregnant.

To learn how much weight you should probably gain, enter your height and weight here.

## What is LGA, Macrosomia?

- LGA stands for **Large for Gestational Age**
- Defined as any infant with a birth weight greater than the 90<sup>th</sup> percentile for age.
  - Infants born at 40 weeks in the US, 90% are less than 4000g
  - LGA would be 4000 grams and above, or 8 lbs 13 oz
- Macrosomia**, "big baby syndrome" means any infant greater than 4000 or 4500 grams (9 lbs 15 oz) regardless of gestational age

"Think I'm too big? Try gestating for 22 months!"

## Perinatal risks for the LGA infant

**Study using records of 5.9 million US white women who gave birth at 37-44 weeks to singletons weighing at least 5 lbs 8 oz found:**

- Infants 4500-4999 g (9 lbs 15 oz - 11 lbs) had increased risk of stillbirth, neonatal mortality, birth injury, meconium aspiration, c-section delivery
- Infants 5000 g (11 lbs) and up had even higher risks of those things plus higher risk of SIDS

Zhang X, Decker A, Platt RW, Kramer MS. How big is too big? The perinatal consequences of fetal macrosomia. Am J Obstet Gynecol, 2006 May; 196(5):517.e1-6

## LGA: Maternal obesity vs GDM

- Compared to healthy weight women\*
  - Overweight women 65% more likely to have LGA babies
  - Obese women 163% more likely to have LGA babies
- "Excess weight in pregnant women, both before pregnancy and gained during pregnancy, is the main predictor of whether mothers will have larger than average babies" \*\*
- "Gestational impaired glucose tolerance was **not** a significant **independent** predictor of having a large-for-gestational-age infant," \*\*

\*Kaiser Permanente (2012, August 14). **Overweight and obese women more likely to have large babies.** ScienceDaily. Retrieved September 5, 2012, from <http://www.sciencedaily.com/releases/2012/08/120814135236.htm>

\*\*Canadian Medical Association Journal (2012, May 22). **Excess maternal weight before and during pregnancy can result in larger babies.** ScienceDaily. Retrieved September 5, 2012, from <http://www.sciencedaily.com/releases/2012/05/120522133032.htm>

## Maternal obesity and GDM

**Not every obese woman will have GDM, not every woman with GDM will be obese!**

- In a retrospective study of 9,835 women in Southern California...
  - 59.5% of pregnant women were overweight/obese
  - 19.2% of the women had GDM**
  - Of the women with GDM,
    - 76.3% were overweight/obese,
    - 23.7% were normal or underweight
- Who do you think has a greater risk of metabolic syndrome?
  - Children born LGA to mothers with no GDM
  - Children who were not LGA born to mothers with GDM

<sup>1</sup>Diabetes Care. 2012 Aug 13. [Epub ahead of print] **The Relative Contribution of Prepregnancy Overweight and Obesity, Gestational Weight Gain, and IADPG-Defined Gestational Diabetes Mellitus to Fetal Overgrowth.** <http://dx.doi.org/10.2337/diacare.2012.051> Department of Research and Evaluation, Kaiser Permanente Southern California, Pasadena, California.



## Pregnancy Weight Gain IOM Guidelines

### Institute of Medicine (IOM) guidelines for weight gain during pregnancy:

	* BMI	weight gain
Underweight	<18.5	<b>28–40 lbs</b>
Normal weight	18.5–24.9	<b>25–35 lbs</b>
Overweight	25.0–29.9	<b>15–25 lbs</b>
Obese (includes all classes) $\geq 30.0$		<b>11–20 lbs</b>

- Roughly half of pregnant women gain more weight than the IOM guideline recommends! (excessive gestational weight gain, or GWG)



## Gestational Weight Gain (GWG)

- The strongest predictor of postpartum weight retention is gestational weight gain (GWG).
- "The greater the weight gain, the greater the weight retention at one year".\*
- "The majority of women never lose their GWG and go into each subsequent pregnancy at a higher BMI"\*
- Excessive GWG increases the risk of being overweight and obese even 21 years after pregnancy\* which ups risk of T2D



\*Linda A Barbour. **Weight gain in pregnancy is less truly more for mother and infant?** *Obstet Med* June 2012 5:58–64; published ahead of print 8 May 2012. doi:10.1258/om.2012.120004

## The perils of eating for two

- GWG contributes to risk of
  - GDM
  - pre-eclampsia
  - c-section delivery
  - infant adiposity
  - metabolic syndrome in children
  - downstream obesity
- Don't eat for two – eat for 1.1 (or so)



## Is the Womb More Important than the Home?

Animal studies have shown that uterine environment affects adiposity and health of the offspring

- Pregnant animals fed junk food diets had offspring that craved fat, salt, and sugar
- Having a balanced diet during pregnancy was protective against junk-food fueled obesity in offspring
- "Offspring exposed to maternal obesity were more susceptible to obesity, regardless of birth weight"\*

\*Adamo K.B., Ferraro Z.M., Brett K.E. Can We Modify the Intrauterine Environment to Halt the Intergenerational Cycle of Obesity? *International Journal of Environmental Research and Public Health*. 2012; 9(4):1263-1307.

## Is the Womb More Important than the Home?

Sibling studies in women that have had children before and after bariatric surgery have shown that :

- Children born before surgery were 3 times more likely to be severely obese than the children born after surgery.
- Children born after surgery had better insulin sensitivity and cholesterol levels

\*\*Endocrine Care: J. Smith, K. Clifton, S. Birn, F. S. Heald, S. Leibel, S. Marcoux, O. Lencoeur, L. Bertho, S. Simard, J. G. Kral, and P. Marcoux. Effects of Maternal Surgical Weight Loss in Mothers on Intergenerational Transmission of Obesity. *JCEM* 2009 94: 4275-4282; doi:10.2210/jce.2009.0709

## Some good news for GDM

Moms with uncontrolled GDM during pregnancy had children that were

- 89% more likely to be overweight
- 82% more likely to be obese (compared to children of women without GDM)

Moms with GDM whose blood sugars were well controlled had children that were

- No more likely to be overweight or obese

The study's lead author noted that more research needs to be done to confirm those findings.



## What Does This Mean for Nurses?

- The origins of obesity may begin with “programming” before birth!
- Supporting the OB/OW pregnant woman to adopt a healthier lifestyle may be the first step in preventing obesity in her child
  - Avoiding excessive GWG
  - Encouraging physical activity, healthy eating
- Women are more motivated to adopt healthier behaviors when pregnant



Steer the ship towards a healthier future!

## Can GDM be prevented?

Many studies have attempted interventions to reduce GDM in high risk women (like those with PCOS) by using

- Behavioral interventions
  - Exercise
  - Nutritional counseling
  - Calorie restriction
  - Education
- Metformin
- Fish oil



Unfortunately, these attempts have been largely unsuccessful

## Physical Activity in Pregnancy—It's Good!

- It's safe and beneficial for healthy pregnant (and breastfeeding) women to exercise!
- Physical activity is a great way to lower blood sugar in GDM
- Risks of moderate-intensity aerobic activity, such as brisk walking, are very low for healthy pregnant women.
- Physical activity does not increase your chances of low-birth weight, early delivery, or early pregnancy loss.



## Physical Activity in Pregnancy—It's Good!

- Healthy pregnant women should get at least **150 min/week** of activity, such as brisk walking or dancing
- Lots of studies on physical activity interventions to lower birthweight or risk of GDM have failed
  - Intervened too late in pregnancy
  - Lack of compliance
- It's best to exercise before becoming pregnant and keep it up throughout pregnancy
  - Risk of GDM is less if mom exercises before or during early pregnancy



\*Deirdre K. Tobias, SM, Culin Zhang, MD, PhD,<sup>1,2</sup> Rob M. van Dam, MD, PhD,<sup>1,2</sup> Katherine Bowers, PhD,<sup>3</sup> and Frank B. Hu, MD, PhD,<sup>1,2</sup> **Physical Activity**  
**Business and Public Perspectives and Risk of Occupational Diabetes Mellitus in a Large Cohort** (*Ann Intern Med*. 2014;160:1022-1030).

## Cool Tool — Check your Packet

### Keeping Fit During Pregnancy

Why being active during pregnancy can help you and your baby and how to get started today!

Fitness goes hand in hand with eating right to maintain your physical health and well-being during pregnancy. Pregnant or not, physical fitness helps keep the he-

Healthy pregnant women should get at least 2 hours and 30 minutes of

It's best to spread your workouts throughout the week. If you regularly engage in

vigorous intensity aerobic activity or less amounts of activity, you can keep up your activity level as long as your health doesn't change and you talk to your doc about your activity level throughout your pregnancy.

Special benefits of physical activity during pregnancy:

- Exercise can ease and prevent aches and pains of pregnancy including joint/pain, varicose veins, backaches, and exhaustion.
- Active women seem to be better prepared for labor and delivery and recover more quickly.
- Exercise may lower the risks of preeclampsia and gestational diabetes during pregnancy.
- Fit women have an easier time getting back to a healthy weight after delivery.
- Regular exercise may improve sleep during pregnancy.
- Staying active can protect your emotional health. Pregnant women who exercise seem to have better self-esteem and a lower risk of depression and anxiety.
- Results from a recent, large study suggest that women who are physically active during pregnancy have a lower risk of complications.



## How likely is it that GDM will get T2D?

- ☞ Good question! Numbers vary wildly
- ☞ According to a British study\*, women with a history of GDM are **7 times more likely to be diagnosed with type 2 diabetes** as women who did not have GDM
- ☞ According to a Canadian study\*\*, the rates of women with GDM developing type 2 diabetes were
  - 3.7% - 9 months after delivery
  - 18.9% - 9 years after delivery
    - Women without GDM had 2% rate of T2D 9 years after delivery

\*Type 2 diabetes mellitus after gestational diabetes: a systematic review and meta-analysis. Leanne Bellamy MBBS, Juan-Pablo Casas MD, Prof Aaron D Hingorani FRCP, Dr David Williams FRCP. The Lancet, Volume 373, Issue 9677, Pages 1773 - 1779, 23 May 2009



## Aim for Sunny Shores — preventing T2D

Waist circumference and BMI are strongest predictors of T2D development in women with a hx of GDM

- ☞ Breastfeed
- ☞ Lose 5-7% of body weight (if overweight/obese) through healthy eating and physical activity
- ☞ Get at least 150 minutes per week of activity
- ☞ Get lots of fruits, veggies, and whole grains
- ☞ Get tested at least every 3 years



## Cool Tool — Defend Against Diabetes

☞ [www.DefendAgainstDiabetes.Ne.gov](http://www.DefendAgainstDiabetes.Ne.gov)



## What do women with GDM need to do?

### ADA Clinical Practice Recommendations:

All women with GDM should be tested for type 2 diabetes

- ☞ 6-12 weeks postpartum using a test other than A1c
- ☞ At least every 3 years after that
- ☞ If women are found to have pre-diabetes, they should receive lifestyle interventions or metformin to prevent diabetes



**Nursing Opportunity: Remind women of need for testing and remind doctors to follow up with women with GDM!**

## What to Tell Your Patients



- ☞ Pregnancy is a great time to take control of your health!
- ☞ Excess GWG contributes to a lot of bad things, like
  - risk of gestational diabetes
  - having baby that's too big and having problems with delivery because of it
  - later chances of an overweight child
  - not being able to lose your pregnancy weight...ever!

## What to Tell Your Patients



- ☞ Excess GWG is caused by eating more food than you and your baby need
  - Lack of exercise doesn't help, either
- ☞ Exercise is safe for healthy pregnant women and their babies, and may help reduce pain
- ☞ It doesn't have to be much, just 10 minutes at a time is fine
- ☞ Walking is a great way to start, the earlier in pregnancy the better



## What to Tell Your Patients



To avoid excess GWG,

- ☞ Don't "eat for two!" You only need to eat for 1.1!
- ☞ Eat lots of fruits and vegetables, high fiber foods
- ☞ Limit sugary drinks like pop, sports drinks, fruit punch, etc.
- ☞ Limit foods high in saturated
- ☞ Watch your portion sizes
- ☞ Check out ChooseMyPlate.gov



## What to Tell Your Patients with GDM



Tell them everything on previous 3 slides, plus

- ☞ Gestational diabetes is serious, but it can be managed
- ☞ By controlling your blood sugar, you can reduce your risk of having a baby that's too big and having complications in pregnancy/delivery, may also prevent childhood overweight/obesity
- ☞ You must have your blood sugar checked at your postpartum visit (6-12 weeks after delivery)
- ☞ Breastfeeding may help you and baby's health

## What to Tell Your Patients with GDM



- ☞ You are at risk for type 2 diabetes, so you need to get your blood sugar checked at least every 3 years
- ☞ Type 2 diabetes can be prevented or delayed by losing a modest amount of weight, eating healthy, and being more active
- ☞ Not every woman that had GDM will get it again!
- ☞ Not every woman that had GDM will get type 2 diabetes!

## Cool Tools on GDM from NDEP

- ☞ **Check your packets** for a handout about preventing type 2 diabetes in women (especially at high risk ethnic groups) who have had GDM
- ☞ Made by National Diabetes Education Program(NDEP)
- ☞ They have a great website for GDM
  - [www.YourDiabetesInfo.org/GDM](http://www.YourDiabetesInfo.org/GDM)



## Cool Tool — Simple GDM Handout

- ☞ Check your packet
- ☞ Includes websites for more information
- ☞ Can be copied

### How Can I Take Care of Myself if I Have Gestational Diabetes?

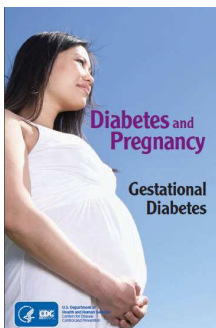
Taking care of yourself when you have gestational diabetes is very much like taking care of yourself when you have other types of diabetes. But it can be a little scary when you're pregnant and you also have a new condition to take care of.

Don't worry. Many women who've had gestational diabetes have gone on to have healthy babies. Here are the things you'll need to do:

- **Follow your meal plan** — You will meet with a dietitian or diabetes educator who will help you design a meal plan full of healthy foods for you and your baby. You will be asked to:
  - Limit sweets
  - Eat often — three small meals and one to three snacks every day
  - Be careful about the carbohydrates you eat — your meal plan will tell you when to eat carbohydrates and how much to eat at each meal and snack
  - Eat lots of whole grain foods, fruits, and vegetables
- **Get moving** — try to be active for at least 30 minutes each week. If you're already active, your doctor can help you make an exercise plan for your pregnancy. If you haven't been active in the past, talk to your doctor. Your doctor can suggest activities, such as swimming or walking, to help keep your blood glucose on track.

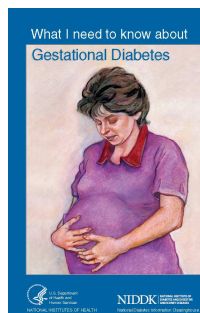


## Cool Tool - Gestational Diabetes Materials



- ☞ CDC publication - free
- ☞ Available in English and Spanish
- ☞ *This easy-to-read booklet was developed for women who have been diagnosed with diabetes during pregnancy and want to learn more about how to take care of themselves during and after pregnancy.*
- ☞ View online:
  - [http://www.cdc.gov/NCBDD/pregnancy\\_gateway/documents/Diabetes\\_and\\_Pregnancy508.pdf](http://www.cdc.gov/NCBDD/pregnancy_gateway/documents/Diabetes_and_Pregnancy508.pdf)

## Cool Tools - Gestational Diabetes Materials

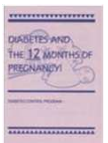


- ☞ **What I need to know about Gestational Diabetes – NIDDK**
- ☞ Booklet – 18 pages
- ☞ More in depth
- ☞ View online:
  - <http://diabetes.niddk.nih.gov/dm/pubs/gestational/>

## For Women with T1 or T2 Diabetes



- Got diabetes? Thinking about having a baby? From CDC - English
- This easy-to-read booklet was developed for women who have diabetes and are thinking about getting pregnant or are already pregnant.



- Diabetes and the 12 Months of Pregnancy** - from NDCP English or Spanish
- About managing your blood sugar prior to pregnancy

## What We Want

- Healthy moms, healthy babies → children → adults → mothers → babies



## How We Get It

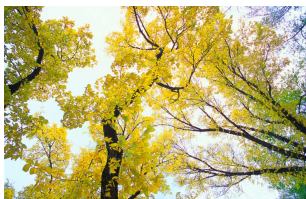
Nurses need to...

- Educate
- Advocate
- Motivate
- Encourage
- Inspire

Be...

- Available
- Accessible
- Accepting
- Positive!

Develop rapport



Cultivate trust

## What pregnant or new moms need

- Sleep!
- Encouragement
- Support to make those healthy choices easier



## Cultivating trust with your patients

Remember...

- None of us are perfect... so we can't expect our patients to be perfect!
- Nobody changes without first being understood**
- You can't guilt, shame, or judge people into better health!



Don't be a Shame-us McJudgersson



## You can tell your patients ☺

- You didn't do anything wrong to get GDM!
- Don't blame yourself!
- We can manage this together!
- It takes a long time to change health habits, but we can start small and start now.
- We are here to support you!
- Most moms with GDM have healthy babies!



[www.dhhs.ne.gov/EWMprovidereducation](http://www.dhhs.ne.gov/EWMprovidereducation)

**Coollest  
Tool Ever -  
FREE  
CONTACT  
HOURS!  
Self Study**



**Thank you! ☺ Additional Resources**



Great websites for GDM, pregnancy:

National Diabetes Education Program, GDM:

- [www.YourDiabetesInfo.org/GDM](http://www.YourDiabetesInfo.org/GDM)

CDC Diabetes and Pregnancy

- <http://www.cdc.gov/Features/DiabetesPregnancy/>

WomensHealth.gov pregnancy info

- <http://womenshealth.gov/pregnancy/>

American Diabetes Association – what is GDM?

- <http://www.diabetes.org/diabetes-basics/gestational/what-is-gestational-diabetes.html>

Thanks for coming to Women and Children First! We Wish You Smooth Sailing!